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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,811	03/12/2004	Randy L. Hoffman	200316545	8370

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EXAMINER

LANDAU, MATTHEW C

ART UNIT	PAPER NUMBER
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2815

MAIL DATE	DELIVERY MODE
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06/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,811

Applicant(s)

HOFFMAN ET AL.

Examiner

Matthew C. Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
4a) Of the above claim(s) 17-30 is/are withdrawn from consideration.
5) ☒ Claim(s) 36-38 is/are allowed.
6) ☒ Claim(s) 1, 31, 32 and 39 is/are rejected.
7) ☒ Claim(s) 2-16, 33-35 and 40-46 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Claims 17-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on January 26, 2006.

Claim Objections

Claims 1 and 39 are objected to because of the following informalities: the limitation “the channel includes one or more metal oxides that include zinc-gallium, cadmium-gallium, cadmium-indium” is objected to. It suggested the limitation be amended to be either “the channel includes one or more metal oxides that include zinc-gallium, cadmium-gallium, or cadmium-indium” or “the channel includes one or more metal oxides that include zinc-gallium, cadmium-gallium, and cadmium-indium”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 31 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoffman et al. (US PGPub 2005/0017244, hereinafter Hoffman).

Regarding claim 31, Figure 1 of Hoffman discloses a drain electrode 22; a source electrode 20; a channel including a multicomponent oxide (ZnSnO_x), wherein the multicomponent oxide is of an amorphous form (paragraph [0016]); a gate electrode 12, and a gate dielectric 16 positioned between the gate electrode and the channel. Note that the various method steps, including the limitations “providing a precursor composition...” and “depositing a channel including the precursor composition...” are merely product-by-process limitations that do not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966. In this case, the multicomponent oxide (ZnSnO_x) disclosed by Hoffman could have been made from a precursor composition including zinc oxide (i.e., zinc oxide and tin oxide). Therefore, the various process limitations do not structurally distinguish the claimed invention over Hoffman.

Regarding claim 32, the limitation “wherein the step for depositing a channel includes a ink-jet deposition technique” is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 39 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11 and 13 of copending Application No. 10/799838. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 11 and 13 of Application No. 10/799838 contain all the limitations of claims 1 and 39 of the instant application. Claim 11 recites at least an oxide containing zinc-gallium. It has been generally held that a broad, generic claim is unpatentable over a narrow, species claim.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Note that Application No. 10/799838 has been allowed.

Allowable Subject Matter

Claims 36-38 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 36, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including the channel includes a multicomponent oxide including at least one metal cation from group 12, and at least one metal cation from group 13, wherein group 12 cations includes Zn and Cd, and group 13 cations includes Ga and In, and wherein at least one of the two-, three-, and four-component oxides if formed of an amorphous form.

Claims 2-16, 33-35, and 40-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed March 19, 2007 have been fully considered but they are not persuasive for the remaining rejection presented above.

Regarding the Double Patenting rejections, Applicant did not respond to the rejections of claims 1 and 39 based on Application 10/799838. Therefore, this rejection (at least for the above indicated claims) is maintained.

Regarding the rejection of claim 31 over Hoffman, Applicant argues that the reference does not teach "one or more precursor compounds that include: zinc oxide, cadmium oxide, gallium oxide, indium oxide, zinc-gallium oxide, cadmium-gallium oxide, and cadmium-indium oxide". Applicant further argues that the Hoffman reference teaches "The channel is comprised of a ternary compound containing zinc, tin, and oxygen" and that "a channel including " $A_xB_xO_x$ " where "each A is selected from the group of Zn, Cd, each B is selected from the group of Ga, In" cannot be formed from the elements listed in the cited Hoffman reference...". However, claim 31 does not require the limitation referred to by Applicant ("a channel including " $A_xB_xO_x$ " where "each A is selected from the group of Zn, Cd, each B is selected from the group of Ga, In"). Claim 31 merely requires forming the channel from a precursor "that includes one or more precursor compounds that include: zinc oxide, ...". Therefore, claim 31 merely requires that channel is made from at least zinc oxide. As stated in the rejection, the limitation in question is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a

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product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966. The product in Hoffman could have been made by using zinc oxide and tin oxide precursors. There is nothing in the claim that excludes using zinc oxide and another (not claimed) compound. Since at least one of the precursors could be zinc oxide, the limitation is met. The burden is on Applicant to show the claimed process necessarily results in a structurally different product (see MPEP 2113).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is 571-272-1731. The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Matthew C. Landau
Primary Examiner
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6/9/07